

### **Remarks**

In the May 2, 2003 Office Action, the Examiner rejected claims 1-13 under 35 U.S.C. § 112, second paragraph. Claim 14 was rejected under § 102(b) for allegedly being anticipated by U.S. Patent 4,695,055 to Newcomb. Claims 1-44 were rejected under § 103(a) for allegedly being obvious based upon U.S. Patents 5,779,562 to Melvin et al.; or 5,813,923 to Cavallaro et al.; each in view of the '055 patent to Newcomb. In view of the following, it is submitted that all rejections must be withdrawn and claims 1-44 be allowed.

Applicants have again, reviewed the Examiner's position in detail. However, it is believed that the present rejections must, as a matter of law, be withdrawn.

#### **A. Rejection of Claims 1-13 Must Be Withdrawn**

In support of this ground of rejection, the Examiner argued:

Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the language "conventional" is indefinite as it is unclear what structure would necessarily comprise a "conventional" golf ball. The applicant's remarks appear to try to equate a "conventional" golf ball with a golf ball that complies with USGA requirements, however, this language was never presented in the originally filed specification. In fact, the originally filed specification merely mentions that conventional golf ball covers are known to be made from ionomer, balata and slow-reacting, thermoset polyurethane. The specification fails to note at any time that a conventional golf ball as used in the application is intended to require a golf ball that complies with USGA standards.

Page 2 of May 2, 2003 Office Action.

Claim 1, the only independent claim of the rejected group of claims 1-13, is directed to improved USGA conforming or conventional golf balls comprising separate cores and covers, at least one of which is produced by a fast chemical reaction. Claim 1, as amended, also indicates that the separate core and cover components are uniformed, spherical golf ball components.

The Examiner's grounds for rejection of claims 1-13 under § 112 is for alleged indefiniteness of the term "conventional" in claim 1. It is respectfully urged that upon closer review, the Examiner will appreciate that the term "conventional" is in fact sufficiently definite and refers to a golf ball that complies with USGA requirements.

The Examiner's rejection appears to be based upon the Examiner's view that the specification does not expressly define the term "conventional" as referring to a golf ball that complies with USGA standards. It is respectfully submitted that upon closer review, the Examiner will appreciate that the originally filed specification does in fact describe golf balls that comply with USGA standards. A reading of the specification confirms this. The Examiner is urged to consider the following.

For example, many of the measurements described in the specification for the subject golf balls are made with regard to PGA or USGA references or measurements. For example, in Example 1 on page 13 of the application, reference is made to a golf ball core having a particular PGA compression.

In addition, on pages 24 and 25, a discussion is provided which explains why only certain factors are of concern among golf ball manufacturers in the design of a suitable golf ball, i.e. one that is in conformance with USGA standards. Specifically, there it is noted:

Since club head, club head mass, the angle of trajectory and environmental conditions are not determinants controllable by golf ball producers and the ball size and weight are set by the U.S.G.A.,

Pages 24 and 25 of the application. This passage indicates that the balls of interest are those having a size and weight that are in accordance with the USGA.

In addition, the specification clearly states:

The coefficient of restitution must be carefully controlled in all commercial golf balls if the ball is to be within the specifications regulated by the United States Golf Association (U.S.G.A.). As mentioned to some degree above, the U.S.G.A. standards indicate that a "regulation" ball cannot have an initial velocity exceeding 255 feet per second in an atmosphere of 75 F. when tested on a U.S.G.A. machine. Since the coefficient of restitution of a ball is related to the ball's initial velocity, it is highly desirable to produce a ball having sufficiently high coefficient of restitution to closely approach the U.S.G.A. limit on initial velocity, while having an ample degree of softness (i.e. hardness) to produce enhanced pliability (i.e. spin, etc.)

Page 26 of the application. This provides further indication that the claimed golf balls are designed to be in conformance with USGA standards.

The specification continues and describes compression parameters of the claimed golf balls and describes those compression parameters in terms of PGA compression:

The term "compression" utilized in the golf ball trade generally defines the overall deflection that a golf ball undergoes when subjected to a compressive load. For example, PGA compression indicates the amount of change in golf ball's shape upon striking. The development of solid core technology in two-piece balls has allowed for much more precise control of compression in comparison to thread wound three-piece balls.

Page 27 of the application. The subject golf balls are designed to be conforming balls.

Additional references are found throughout the specification to PGA and USGA measurements in describing the presently claimed golf balls.

It is clear that the claimed golf balls are designed to be in conformance with USGA standards. If that were not the case, why then would repeated references be made to USGA and PGA standards? It is respectfully submitted that upon closer review, the Examiner will agree that the claimed golf balls are intended to be USGA conforming golf balls. It is respectfully requested that this ground of rejection be withdrawn.

Additionally, please also note that, while not agreeing with the Examiner here, claim 1 and several other independent claims have been further amended to clearly differentiate the claimed invention from the non-conventional non-uniformed golf ball of the prior art.

#### **B. Rejection of Claim 14 Based Upon §102 Must Be Withdrawn**

For this ground of rejection, the Examiner asserted:

Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Newcomb. Newcomb discloses a golf ball formed from reaction injection molding (column 1, lines 36-40). The ball structure includes a homogeneous translucent plastic and a light stick inserted therein to make the golf ball multiple pieces. The light stick comprises the core for the golf ball and the translucent plastic comprises the cover formed from a reaction injection molded material. Note column 1, lines 55-57 teaching a polyurethane material for forming the golf ball.

Pages 2-3 of the May 2 Office Action.

In response to Applicants' previous explanations as to why this ground of rejection is improper, the Examiner contended:

Applicant's arguments filed December 3, 2002 have been fully considered, however, they are not deemed to be persuasive. Regarding the rejection under 35 USC 102(b), although the structure of Newcomb may be unlike that of the instant invention, the claims fail to define any of these differences. Indeed, Newcomb defines a multi-piece golf ball including a core (8, 10) and a cover formed from a reaction injection molded material comprising polyurethane.

Page 5 of May 2 Office Action.

The '055 patent to Newcomb fails to anticipate claim 14. Claim 14 expressly recites that the golf ball is a "multi-piece" ball having a core and a separate cover. In contrast, the '055 patent discloses:

The ball structure is completely different from all golf balls now commonly in use in that it is made of a homogeneous translucent plastic by known methods such as for example cast molding, injection molding or reaction injection molding.

Col. 1, lines 36-40.

The '055 patent entirely fails to disclose a multi-piece golf ball having a separate core and cover, let alone a multi-piece golf ball having separate, uniformed, spherical components. Instead, Newcomb et al. discloses a one-piece ball having a hole in it. This is further apparent from Fig. 4 and the language of the '055 patent and the designation of the ball as a solid golf ball having a diametrical hole for receiving a light stick. Additionally, the cross section of Fig. 5 of the '055 patent reveals a solid, one-piece structure devoid of any differentiation between a cover component or a core component. Thus, it is respectfully requested that the rejection be withdrawn.

**C. Rejection of Claims 1-44 Based Upon § 103 Must Be Withdrawn**

For this rejection, the Examiner argued:

Claims 1-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Melvin et al. (562) or Cavallaro et al. (923), each in view of Newcomb (4,695,055). The latter reference renders it obvious to mold the polyurethane layers of the primary reference golf balls by a reaction injection molding process, since such is an obvious expedient for providing the desired resiliency in a golf ball, as illustrated by the secondary reference. Any other possible distinctions over said modified golf balls are deemed conventional molding techniques that would necessarily be used in such molding process.

Regarding instant claims 1-13, the particular details for the recited method have been determined to be obvious lacking a showing of their criticality by a new and unexpected result. See *In re Aller et al.* 105 USPQ 233. The appellant has noted that the references lack the particular flex modulus and reaction time of the instant claims, however, he has failed to produce any test results or arguments in affidavit form which would disprove that these numbers are merely workable ranges obtained by routine experimentation. Thus, it would have been obvious to one of ordinary skill in the art to form the golf ball of Melvin et al. or Cavallaro et al. utilizing the reaction injection molding method detailed by Newcomb and according to the instantly claimed numbers as the appellant has not shown that these particular numbers solve any stated purpose and it appears that the combination of Melvin et al. or Cavallaro et al. each in view of Newcomb would accomplish similar purposes.

Regarding claims 14-37, as set forth above, the combination of Melvin et al. or Cavallaro et al. each in view of Newcomb would provide a golf ball comprising a reaction injection molded material comprising polyurethane/polyurea.

Regarding claims 38-41, as set forth above, the combination of Melvin et al. or Cavallaro et al. each in view of Newcomb would provide a golf ball comprising a reaction injection molded material comprising polyurethane/polyurea. Further, the step defining recycling at least 20% of the polyurethane/polyurea has been determined to be obvious lacking a showing of the criticality for the recited amount.

Regarding claims 42-44, as set forth above, the combination of Melvin et al. or Cavallaro et al. each in view of Newcomb would provide a golf ball comprising a reaction injection molded material comprising polyurethane/polyurea. Also, as the appellant has failed to provide any test results or arguments in affidavit form which would disprove that these numbers are merely workable ranges obtained by routine experimentation, it would have been obvious to one of ordinary skill in the art to form the golf ball of Melvin et al. or Cavallaro et al. utilizing the reaction injection molding method detailed by Newcomb and according to the instantly claimed numbers.

Pages 3-4 of the May 2 Office Action.

In response to Applicants' previous explanations as to why this ground of rejection is improper, the Examiner contended:

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ 2d 1057 (Fed. cir. 1993).

Regarding applicant's argument that the ball of Newcomb is a one-piece golf ball devoid of any separate core and inner cover layers, such argument is not well taken. The golf ball of Newcomb clearly provides a plurality of pieces which go to make up the golf ball. Further, the light stick (8, 10) is clearly a separate core from the outer plastic cover of the ball. Moreover, instant claim 14 fails to define inner cover layers as applicant argues, but instead only recites a core and separate cover which are clearly provided by the reference to Newcomb.

Regarding applicant's contention that Newcomb is not a conventional golf ball, attention is directed to the rejection under USC 112, second paragraph where the language "conventional" in claim 1 has been found to be indefinite. Applicant appears to introduce this language in order to distinguish the instant invention from the specific teachings of Newcomb (stating that his ball is distinguishable from a conventional golf ball), however, it is unclear what applicant intends from this recitation. Applicant's remarks appear to try to equate a "conventional" golf ball with a golf ball which complies with USGA requirements, however, this is not supported by the originally filed specification. Indeed, the originally filed specification fails to mention at any time that the instant golf ball necessarily complies with USGA requirements or that a conventional ball is assumed to comply with these requirements.

Further, the applicant should note that the rejection for instant claim 1 is over the combination of Melvin et al. or Cavallaro et al. each in view of Newcomb where both Melvin et al. and Cavallaro et al. teach "conventional" golf balls. The secondary reference to Newcomb is relied upon solely for its suggestion that the reaction injection molding process for plastics is old and well known in the art of golf ball plastics and to utilize such with the plastics taught by either Melvin et al. or Cavallaro et al. would have been with the level of one having ordinary skill in the art.

Regarding applicant's statement that Newcomb lacks a teaching for the particulars associated with using reaction injection molding including the types of reactants, catalysts, or reactive components to be utilized, the cream, gel or reaction times, the types of molds, injectors, aftermixers, etc., the instant claims fail to recite any of these particular characteristics. Further, as Newcomb suggests that reaction injection molding is old and well known in the art of golf ball plastics, the particular details for the instantly recited methods are determined to be obvious lacking a showing of their criticality by a new and unexpected result. The applicant has been invited numerous times to demonstrate the criticality for these recited details by providing test results in affidavit form, however, as he has failed to do so one of ordinary skill in the art can only assume that any differences between the instant invention and the proposed combination reside in workable ranges which would be obtained by routine experimentation.

Regarding the applicant's statement that because reaction injection molding was known at the time of the inventions of both Cavallaro and Melvin and neither Cavallaro nor Melvin mention the method, one of ordinary skill in the art must assume that a motivation does not exist, this logic is flawed. First, if either reference included a teaching for forming their golf ball using a reaction injection molding process a rejection under 35 USC 102(b) would have been proper. Second, it would be inane for one to assume that each and every well known method of manufacturing golf balls would be included in a disclosure of a patent. Here, we have a secondary teaching by Newcomb that reaction injection molding processes are well known in the art of golf ball plastics and a primary reference teaching a golf ball using a polyurethane.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the Applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Regarding the applicant's contention that the combination of Melvin et al. or Cavallaro et al. each in view of Newcomb lacks the teaching for the recited flex modulus and demold time, the applicant is again referred to the basis for the rejection under 35 USC 103. The rejection clearly states that the particular details for the reaction injection molding process have been determined to be obvious lacking a showing of a new and unexpected result. As stated in the rejection in Paper No. 22, the applicant is invited to disprove that these numbers are merely workable ranges obtained by routine experimentation by providing test results or arguments in affidavit form.

**1. Claims 1-13**

Regarding claims 1-13, the Examiner argues that Applicants have "not shown that these particular numbers [i.e., the flex modulus and reaction times] solve any stated purpose."

It is respectfully submitted that this is not correct. Referring to the specification, there is abundant description as to the purpose of the various flex modulus values and the reaction times.

The method of the present invention offers numerous advantages over conventional slow-reactive process compression molding of golf ball covers. The method of the present invention results in molded covers in a demold time of 10 minutes or less. An excellent finish can be produced on the ball.

Lines 12-16, page 5 of the specification.

The specification continues and describes the purpose for using fast reaction times and these flex modulus values:

The present invention is believed to provide for improved durability of a golf ball cover layer by providing a uniform or "seamless" cover in which the properties of the cover material in the region along the parting line are generally the same as the properties of the cover material at other locations on the cover, including at the poles. The improvement in durability is believed to be a result of the fact that the reaction mixture is distributed uniformly into a closed mold. This uniform distribution of the injected materials eliminates knit-lines and other molding deficiencies which can be caused by temperature difference and/or reaction difference in the injected materials. The process of the invention results in generally uniform molecular structure, density and stress distribution as compared to conventional injection-molding processes.

The fast-chemical-reaction-produced component has a flex modulus of 5 - 310 kpsi, more preferably 5-100 kpsi, and most preferably 5 - 50 kpsi. The subject component can be a cover with a flex modulus which is higher than that of the centermost component of the cores, as in a liquid center core and some solid center cores. Furthermore, the fast-chemical-reaction-produced component can be a cover with a flex modulus that is higher than that of the immediately underlying layer, as in the case of a wound core. The core can be one piece or multi-layer, each layer can be either foamed or unfoamed, . . .

Lines 10-29, page 7.

Another benefit of using the fast reaction times is that:

The method of the invention is particularly useful in forming golf balls because it can be practiced at relatively low temperatures and pressures.

Lines 7-8, page 5.

Specifically, the present discovery relates to covers and cores:

As indicated above, one or more cover layers of a golf ball can be formed from a fast-chemical-reaction-produced material according to the present invention.

Lines 8-10, page 9.

Golf ball cores also can be made using the materials and processes of the invention.

Lines 8-9, page 12.

Forming covers and cores in accordance with the noted reaction times and exhibiting the noted flex modulus values, is responsive to the stated objectives of the invention:

An object of the invention is to produce a golf ball having a polyurethane cover which is formed by a fast chemical reaction.

Another object of the invention is to provide a non-ionomeric golf ball cover which is efficiently produced by injection molding.

Yet another object of the invention is to provide a golf ball which contains polyurethane.

A further object of the invention is to provide a golf ball in which material from recycling polyurethane can be used to result in an efficient manufacturing process.

A further object of the invention is to produce a durable golf ball containing polyurethane, polyurea, epoxy, and/or unsaturated polyesters.

Another object of the invention is to provide a golf ball with a "seamless" cover layer, i.e., a cover layer having generally the same microscopic and molecular structure distribution both in the regions adjacent to the parting line of the mold and at locations which are not adjacent to the parting line, including near the poles.

Yet another object of the invention is to provide a method of making a golf ball of the type described above.

Other objects of the invention will become apparent from the specification, drawings and claims.

Line 26, page 1 to line 16, page 2.

Applicants also take issue with the Examiner's argument that "it appears that the combination of Melvin et al. or Cavallaro et al. each in view of Newcomb would accomplish similar purposes."

Upon what grounds does the Examiner base this argument? The Examiner fails to provide any reasons why "it appears" that similar purposes would be provided. The mere mention of the possible use of polyurethane in a golf ball by Melvin and Cavallaro and/or the brief reference to reactive injection molding in Newcomb et al. in no way would provide sufficient motivation to lead a formulator to employ a reaction product having a flex modulus of 5 - 310 kpsi in a reaction time of 5 minutes or less, and to utilize a component formed from that reaction product having a thickness of at least 0.01 inches and a demold time of 10 minutes or less.

It is not understood why the Examiner is demanding that Applicants submit "test results in affidavit form." The § 103 rejection based upon Melvin et al. or Cavallaro et al. either in view of Newcomb et al., is woefully inadequate and deficient. The '562 patent to Melvin et al. entirely fails to teach a process of making a golf ball component by mixing two or more reactants that react and form a reaction product with a flex modulus of 5-310 kpsi in a reaction time of about 5 minutes or less, the component having a thickness of at least 0.01 inches and a demold time of 10 minutes or less.

Melvin et al. teach, in no uncertain terms, the use of compression molding or injection molding. The claims at issue recite forming the golf ball component "by mixing two or more reactants that react and form a reaction product" having a certain flex modulus and in a particular reaction time such that the component exhibits a certain demold time. The present specification states that this method is a RIM process. And, the specification clearly distinguishes this process from an injection molding operation or a compression molding operation as taught by Melvin et al. The present specification states in this regard:

The preferred method of forming a fast-chemical-reaction-produced component for a golf ball according to the invention is by reaction injection molding (RIM). RIM is a process by which highly reactive liquids are injected into a closed mold, mixed usually by impingement and/or mechanical mixing in an in-line device such as a "peanut mixer", where they polymerize primarily in the mold to form a coherent, one-piece molded article. The RIM processes usually involve a rapid reaction between one or more reactive components such as polyether - or polyester - polyol, polyamine, or other material with an active hydrogen, and one or more isocyanate - containing constituents, often in the presence of a catalyst. The constituents are stored in separate tanks prior to molding and may be first mixed in a mix head upstream of a mold and then injected into the mold. The liquid streams are metered in the desired weight to weight ratio and fed into an impingement mix head, with mixing occurring under high pressure, e.g., 1500 - 3000 psi. The liquid streams impinge upon each other in the mixing chamber of the mix head and the mixture is injected into the mold. One of the liquid streams typically contains a catalyst for the reaction. The constituents react rapidly after mixing to gel and form polyurethane polymers. Polyureas, epoxies, and various unsaturated polyesters also can be molded by RIM.

RIM differs from non-reaction injection molding in a number of ways. The main distinction is that in RIM a chemical reaction takes place in the mold to transform a monomer or adducts to polymers and the components are in liquid form. Thus, a RIM mold need not be made to withstand the pressures which occur in a conventional injection molding. In contrast, injection molding is conducted at high molding pressures in the mold cavity by melting a solid resin and conveying it into a mold, with the molten resin often being at about 150 - 350°C. At this elevated temperature, the viscosity of the molten resin usually is in the range of 50,000 - 1,000,000 centipoise, and is typically around 200,000 centipoise. In

an injection molding process, the solidification of the resins occurs after about 10 – 90 seconds, depending upon the size of the molded product, the temperature and heat transfer conditions, and the hardness of the injection molded material. Subsequently, the molded product is removed from the mold. There is no significant chemical reaction taking place in an injection molding process when the thermoplastic resin is introduced into the mold. In contrast, in a RIM process, the chemical reaction typically takes place in less than about two minutes, preferably in under one minute, and in many cases in about 30 seconds or less.

Line 29, page 5 to line 5, page 7.

In contrast, Melvin et al. teach the use of compression molding or injection molding:

For example, the golf balls can be produced by injection molding or compression molding the novel cover compositions around the solid molded core to produce an inner ball which typically has a diameter of about 1.50 to 1.67 inches. The outer layer is subsequently molded over the inner layer to produce a golf ball having a diameter of 1.620 inches or more, preferably about 1.680 inches or more. The standards for both the minimum diameter and maximum weight of the balls are established by the United States Golf Association (U.S.G.A.).

In compression molding, the inner cover composition is formed via injection at about 380°F. to about 450°F. into smooth surfaced hemispherical shells which are then positioned around the core in a mold having the desired inner cover thickness and subjected to compression molding at 200° to 300° F. for about 2 to 10 minutes, followed by cooling at 50° to 70° F. for about 2 to 7 minutes to fuse the shells together to form a unitary intermediate ball. In addition, the intermediate balls may be produced by injection molding wherein the inner cover layer is injected directly around the core placed at the center of an intermediate ball mold for a period of time in a mold temperature of from 50° to about 100° F. Subsequently, the outer cover layer is molded about the core and the inner layer by similar compression or injection molding techniques to form a dimpled golf ball of a diameter of 1.680 inches or more.

Line 47, col. 19 to line 6, col. 20 of the '562 patent.

The Examiner attempts to combine the limited teachings of the '562 patent to Melvin et al. with the description of the illuminated novelty golf ball in the '055 patent to Newcomb et al. In this regard, the Examiner argues:

The secondary reference to Newcomb is relied upon solely for its suggestion that the reaction injection molding process for plastics is old and well known in the art of golf ball plastics and to utilize such with the plastics taught by either Melvin et al. or Cavallaro et al. would have been with the level of one having ordinary skill in the art.

A careful reading of the '055 patent to Newcomb et al. reveals that the only mention made in that patent to a reaction injection molding process is:

[I]t [i.e. Melvin's illuminated novelty golf ball] is made of a homogenous translucent plastic by known methods such as for example cast molding, injection molding or reaction injection molding.

Col. 1, lines 36-40.

There is no teaching in either of the patents to Melvin et al. or Newcomb et al. of the particular process recited in claims 1-13. The Examiner is respectfully reminded that in order to properly reject claims based upon cited art, the art must provide a sufficient teaching as to the claimed subject matter. Newcomb et al. merely note a reaction injection molding process among various other processes and entirely fails to teach the process of the pending claims.

In fact, upon further inspection, it is evident that Newcomb et al. only teaches injecting a liquid molding material into a mold, heating, and pressurizing:

To produce the ball, the molder injects the aforesaid material in liquid or pellet form into a correctly sized mold and then subjects it to heat and pressure according to known processes.

Col. 5, lines 31-34 of the '055 patent. There is no teaching of a process in which two or more reactants are mixed to form a reaction product having a certain flex modulus and in a particular amount of time so as to form a component with a certain demold time. Newcomb et al. also entirely fail to teach a process of forming a multi-component golf ball having a core and a cover.

If one followed the teachings of the '562 patent to Melvin et al., as the Examiner does in basing the present rejection upon this patent, then one would be motivated to use an injection or compression molding process. These processes are distinguishable from the particular process that is the subject of the present application and the claims at issue.

If one followed the teaching of the '055 patent to Newcomb et al., one would be instructed to employ a process of forming a one-piece golf ball with a hole in it. This is entirely different from the process recited in claim 1.

The '923 patent to Cavallaro et al. is similarly deficient and does not remedy the failure of the patent to Newcomb et al. The only mention by Cavallaro et al. of how to form their golf balls is that either compression molding or injection molding may be performed. See for example, col. 14, lines 36-53.

Furthermore, dependent claims 2-13 recite additional features in combination with the aspects recited in independent claim 1, which the cited art entirely fails to teach or describe. For example, where in any of the cited art is a reaction product having a flex modulus of 5 – 300 kpsi as in claim 5, called out?

And, where in the cited art is it taught that such product as in claim 5, has a reaction time of about 3 minutes or less? Where in the cited art is the process of claim 12 taught which includes a step of recycling at least a portion of the reaction product? Where in the cited art is the process of claim 13 taught in which the reaction product is recycled by glycolysis? The rejection of dependent claims 2-13 is improper and entirely unsupported.

For at least these reasons, the rejection of claims 1-13 is improper and must be withdrawn.

## **2. Claims 14-37**

These claims call for a multi-piece golf ball comprising a core and a continuous cover formed from a RIM material comprising polyurethane polyurea. It is respectfully submitted that the claims at issue are clearly distinguishable from the prior art.

Neither of the patents to Melvin et al. nor to Cavallaro et al. teach anything in regards to a cover formed from a RIM material. In fact, both of these patents teach directly away from this claimed aspect. Melvin et al. teach that either injection molding or compression molding techniques be used:

For example, the golf balls can be produced by injection molding or compression molding the novel cover compositions around the solid molded core to produce an inner ball which typically has a diameter of about 1.50 to 1.67 inches. The outer layer is subsequently molded over the inner layer to produce a golf ball having a diameter of 1.620 inches or more, preferably about 1.680 inches or more. The standards for both the minimum diameter and maximum weight of the balls are established by the United States Golf Association (U.S.G.A.).

In compression molding, the inner cover composition is formed via injection at about 380°F. to about 450°F. into smooth surfaced hemispherical shells which are then positioned around the core in a mold having the desired inner cover thickness and subjected to compression molding at 200° to 300° F. for about 2 to 10 minutes, followed by cooling at 50° to 70° F. for about 2 to 7 minutes to fuse the shells together to form a unitary intermediate ball. In addition, the intermediate balls may be produced by injection molding wherein the inner cover layer is injected directly around the core placed at the center of an intermediate ball mold for a period of time in a mold temperature of from 50° to about 100° F. Subsequently, the outer cover layer is molded about the core and the inner layer by similar compression or injection molding techniques to form a dimpled golf ball of a diameter of 1.680 inches or more.

Line 47, col. 19 to line 6, col. 20 of the '562 patent. And, as previously noted, Cavallaro only notes the use of compression molding or injection molding. If one looked to either of these patents, as the Examiner does in making the present

rejection, one would be instructed to use either a compression molding or injection molding process.

Furthermore, the '055 patent to Newcomb et al. only teaches an illuminated translucent golf ball having a one-piece structure with a diametrical hole in it. Newcomb et al. entirely fails to teach a multi-piece golf ball having a separate core and a cover, let alone a multi-piece golf ball having a separate and uniformed, spherical core and cover components.

Similarly, the rejection of dependent claims 15-37 is deficient. These claims all recite features in combination with the recitations of independent claim 14 that are simply not taught or even suggested by the cited art. Where for instance in the cited art is the teaching for the recitation in claim 16 that at least 5% of a particular material used in forming a core and cover is obtained by recycling? And, where is any teaching in the cited art that recycling takes place by glycolysis, as called for in claim 17? Furthermore, dependent claims 24 and 25 recite cover hardness values in conjunction with the features of claims 18 and 14. Where in any of the cited art is there a teaching of this unique combination of features? The rejection of dependent claims 15-37 is improper and entirely unsupportable.

For at least these reasons, the rejection of claims 14-37 must be withdrawn.

### **3. Claims 38-39**

Applicants traverse this rejection based upon the '055 patent which is directed to an illuminated novelty ball.

As noted, neither the '562 patent to Melvin et al. nor the '923 patent to Cavallaro et al. teach or describe reaction injection molding. They are strictly limited to compression and injection molding. Although the '055 patent to Newcomb mentions reaction injection molding, Newcomb is exclusively directed to a ball having a one-piece structure with a diametrical hole in it. There is absolutely no teaching or even a suggestion by Newcomb et al. of providing separate cover or core layers, solid spherical components, etc.

Dependent claim 39 recites a step involving recycling at least 20% of a polyurethane/polyurea material employed in the process of claim 38. The cited art entirely fails to teach or even suggest this combination of features.

For at least these reasons, the rejection of claims 38-39 is improper and must be withdrawn.

#### **4. Claims 40-41**

These claims recite a process for using reaction injection molding of a particular material for forming a core or a cover, in conjunction with a step of "coating and adding indicia to the covered ball."

The '055 patent to Newcomb et al., upon which the Examiner heavily relies, entirely fails to teach a step of "coating and adding indicia" to a covered ball. Since the lighted novelty ball of the '055 patent is primarily for use at night, it would be futile to provide indicia on the ball.

The '923 patent to Cavallaro et al. entirely fails to provide any mention of adding indicia. Although the '562 patent to Melvin et al. notes a marking operation, Melvin et al. fail to teach a reaction injection molding operation. Melvin et al. also fail to teach such an operation using a polyurethane/polyurea material. It is improper to selectively pick and choose among a number of references in an attempt to recreate the claimed subject matter (citations omitted).

As with previously discussed dependent claim 39, dependent claim 41 recites a recycling step in conjunction with the process of independent claim 40. This unique combination of steps is simply not taught or even suggested in the cited art.

For at least these reasons, the rejection of claims 40-41 is improper and must be withdrawn.

#### **5. Claims 42-43**

These claims recite a golf ball having at least one layer of a certain material having a particular flex modulus that is formed in a certain reaction time and which has a particular thickness.

Again, for the reasons previously presented, such as with regard to the deficient rejection of claims 1-13, the cited art fails to render claims 42-43 obvious. This ground of rejection must be withdrawn.

**6. Claim 44**

Claim 44 recites, in part, a golf ball having a cover comprising polyurethane/polyurea which is formed from reactants, 5-100% of which are obtained from recycled polyurethane/polyurea.

There is absolutely no teaching, or even a suggestion, of this feature in the cited art. This ground of rejection must be withdrawn.

**D. Conclusion**

The Examiner is respectfully requested to carefully re-evaluate the present rejections. As explained herein, these rejections are misplaced, and are not supportable.

It is earnestly believed that all pending claims are allowable over the cited art. Allowance is requested.

Respectfully submitted,

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